DOCUMENT RESUME

ED 122 681 HE 007 670

AUTHOR Dobbert, Daniel J.
TITLE Competency Identification. A Report to the Professional Education Committee of the College of Pharmacy, University of Minnesota.
INSTITUTION Minnesota Univ., Minneapolis. Coll. of Pharmacy.
PUB DATE 15 Aug 75
NOTE 68p.

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Curriculum Design; *Curriculum Development; Degree Requirements; Educational Programs; Feasibility Studies; *Health Occupations; *Higher Education; *Performance Based Education; *Pharmacists; Professional Education
IDENTIFIERS *Competency Based Curriculum; University of Minnesota

ABSTRACT

The concept of competency-based (CB) curriculum was applied to the College of Pharmacy in March, 1975, after extensive study of the idea. Establishment of a CB curriculum was viewed as a project with several components: competency identification, validation and evaluation of competencies, assessment of the presence of competencies, instructional development and assessment, program operation, and program maintenance. Each component is directed toward the overall goal, and each is a critical activity for a viable dynamic program of preparation in pharmacy. Competency identification is either an analysis or synthesis procedure depending upon the goal; analysis being the separation of the functioning of a competent practitioner into the component parts and synthesis, the combination of components to create a new type of competent practitioner. Both analysis and synthesis procedures are necessary to develop competencies for a training program. Methods for implementing the procedures are discussed, along with general recommendations for the project. (LBH)

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COMPETENCY IDENTIFICATION

A REPORT TO THE PROFESSIONAL EDUCATION COMMITTEE OF THE COLLEGE OF PHARMACY UNIVERSITY OF MINNESOTA

by

The PEC Steering Committee for
Professional Competency Identification

and

Daniel J. Dobbert, Consultant
and Chairman of the PEC Steering
Committee for Competency Identification

August 15, 1975
College of Pharmacy
University of Minnesota
Minneapolis, Minnesota

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

This project could not have been a reality without the support of many people. Those who were most frequently involved were E. John Staba, Dean Weaver, membership of the Professional Education Committee (PEC), and the PEC Steering Committee for Competency Identification. Two other individuals served as panel leaders and resource people through the project: Keith Johnson and Paul Grussing. Andrew Johnson provided invaluable help as a process observer and Jean Lunde as secretary. Grateful acknowledgment is made for the small project grant which was provided by the Center for Educational Development, University of Minnesota. Others contributed to the effort in innumerable ways and are too numerous to identify individually though their participation is appreciated.

The final report attempts to describe the significant procedures, occurrences, and output of the project. Its purpose is to provide a description of what led up to and how the preliminary competency list was developed. Before submission to the PEC membership, the report was reviewed by the Steering Committee. The consultant retains responsibility for its content and organization as well as the methodology utilized.

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INTRODUCTION

Education as a phase of society has its own peculiar jargon, as does professional pharmacy. The "in" word of today for both pharmacy and education is "competency-based curriculum." Where or why this emphasis developed is unclear. Presumably, competency - or performance-based curriculum as an alternative approach to curriculum development had its origin in the dissatisfaction with preschool, elementary, secondary, vocational, and higher education. It may also have been a result of the new consumerism and the accompanying concern with protecting the public from substandard or unsafe performance. Another reason could be the concern for providing entry into a profession and accompanying employment through performance rather than somewhat arbitrary and probably discriminatory requirements or standards.

The word competency is not new, but the application of the concept to a profession is. As in most movements there have been abuses and misuse of the concept. If the concept of competency-based (CB) curriculum is to benefit society and pharmacy in particular, then it must be applied with as little deviation from its underlying constructs as possible. Curriculum is competency-based only if its development and implementation follow the underlying constructs of CB curriculum.

The development of competency-based curriculum at the University of Minnesota College of Pharmacy is proceeding in such a manner as to apply the constructs underlying CB curriculum. It may eventually be one of the better, if not one of the best, programs to be developed and operated as competency-based. The careful descussion and development of this instructional program is the primary contribution to its potential for success.

COMPETENCY-BASED CURRICULUM AT THE COLLEGE OF PHARMACY

The faculty of the College of Pharmacy has spent extensive time considering the desirability of establishing a competency-based curriculum. It was a topic of the faculty retreat, September, 1972. A task force was established in January, 1973, by the College of Pharmacy faculty to examine pharmacy roles. Those efforts and the intervening discussions led to the decision by faculty of the University of Minnesota, College of Pharmacy, to study establishing a competency-based curriculum (CBC).

Movement toward this objective (investigation of a competency-based [CB] curriculum) began to solidify and vigorous activity began in March, 1975. The first decision was to determine the direction developmental activity should take. It was decided to discuss the issues at a meeting held April 8, 1975. Those present were the Dean, Assistant Dean for Professional Education, Unit Directors, Chairman of the Professional Education Committee (PEC), Coordinator for Health Sciences Continuing Education, and a Consultant. A presentation covering CBC development and alternatives was made. The question of whether the College should pursue a CBC was discussed. Also discussed was the question of how best to go about it.

Decisions were made to recommend to the College to begin developing a CBC. It was reported to the PEC that the faculty was already investigating a competency-based curriculum. As a means of achieving such a goal it was proposed that a steering committee be established. Their charge would be to develop competency statements within a limited time. It was recommended that such a committee work with a consultant to develop competency statements as a first step toward a CBC. It was also suggested that the committee report back to the PEC with the competency statements after they have been developed and reviewed by them. Those statements would then be used in furthering curriculum development. It was also decided that the CBC development activity is but a guide to curriculum

improvement and that curriculum improvement may continue by alternative processes as well.

PROPOSED PROJECT TO ESTABLISH A COMPETENCY-BASED CURRICULUM AT THE COLLEGE OF PHARMACY

Movement toward establishment of a CBC in the College of Pharmacy can be viewed as a project. Such a project could consist of several components: competency identification, validation and evaluation of competencies, assessment of the presence of competencies, instructional development and assessment, program operation, and program maintenance. Each component is directed toward the goal of development and establishment of a CBC for the College of Pharmacy. They are all critical activities and components for a viable dynamic program of preparation in the profession of pharmacy.

Competency identification is either an analysis or synthesis procedure depending upon the goal. Identifying currently needed competencies can best be done through analysis while creation of the "should have" variety of competency is a job for synthesis. Analysis is the separation of the functioning of a competent practitioner into the component parts while synthesis is a combination of components to create a new type of competent practitioner. In analysis the objective is to create more practitioners like those which exist, and in synthesis it is to create something new that will fulfill previously unmet needs.

The methodology for identification of competencies for the practice of professional pharmacy selected by the PEC for immediate use was a procedure commonly identified as "goal analysis." Competency panels were formed based upon the content organization (community practice, institutional practice, and general competencies) frame of reference formulated by the PEC. The competency panel(s) were charged with listing the performance(s) necessary for the practice of professional pharmacy in order for the panel members as a group to recognize that person as a com-

petent professional pharmacist. Those statements describing competency developed and accepted by the panel members will be available for examination while the second phase of the project is underway. A second set of "should have" competencies, also, could be developed using essentially the same procedures but in response to another question. Ideally, the competencies for curriculum of preparation for professional pharmacists could contain competencies derived by both analysis and synthesis methods.

The next step, phase two, of the project would be to validate and evaluate the inital statements of competency developed in phase one. Those competency statements would be treated as hypotheses statements describing competencies for the practice of professional pharmacy. Procedures intended to test them for significant relationships to the practice of professional pharmacy would be applied to those competency statements. Both those statements developed using analysis and synthesis methods would be tested. Validation and evaluation procedures would be different based on how the competency statement was derived.

The statements in the "should have" category would be tested in terms of their potential for contributing to the improvement of professional practice. A multi-data point method would be utilized. Their rationale and logic for inclusion would be examined. The reference group from which the competency was developed would be carefully examined and an argument presented for its efficacy. Those statements felt by decisionmakers to be defensible will be retained; the others may not. The key here will be the definition of who constitutes decisionmakers. Many options present themselves though they will not be presented here.

Competencies developed under the analysis procedure would be validated and evaluated using a multi-data point method. A suggested procedure might include a task analysis, an intensive case study, and a survey. The task analysis would examine the practice of pharmacy today using industrial psychology methodology with two or more practicing pharmacists recognized as exceptionally competent.

An intensive case study might use the random observation approach utilizing a random signal generator. Simply, the pharmacists (six to ten properly selected) respond twenty or more times each work day for six weeks to a signal at which time the professional pharmacist classifies his immediately preceding behavior in a category contained on a punch card. Behaviors not on the card would be listed also. Lastly, the survey would ask a randomly selected sample of practicing pharmacists to prioritize and rank the competencies and they would include behaviors (competencies) not represented but felt to be of importance to their functioning.

The results of the validation and evaluation study would tend to offer support for the competencies to differing degrees ranging from three, combination of any two, to any one of the three strategies. A similar result will occur for competencies developed using analysis and synthesis procedures. Additionally, new competencies could evolve from the study itself. One should be cautioned though, lack of support does not necessarily indicate a lack of value for a competency. It may be the methodological procedures that were not sensitive. The only type statement supportable by this procedure is that a competency was or could not be offered support by the study and which components offered or did not provide support.

Development of assessment of performance procedures for each competency would follow development of the competency statements. The purpose would be to prepare a method of identifying those who attained each competency and those who had not. Again the multi-data point procedure could be applied. The development of competency-based objective tests (domain, criteria, and content referenced) and components (simulations, gaming, and role playing) resulting in an assessment center would be the objective. Competency content itself would determine the exact nature of each assessment procedure. An important point to keep in mind is that all competencies must be measured in the assessment of competency procedures.

Instructional development could proceed at the same time as the development of a competency assessment procedure and usually does. As used in this project,

instructional development would be divided into two parts, instructional assessment and instructional design. A prerequisite of both is the derivation of instructional objectives through a content analysis of each competency statement.

Instructional tests and instructional design would be based upon the instructional objectives. The instructional design would be directed toward accomplishing the instructional objective. All the instructional objectives contained in the content analysis of a competency are directed toward achievement of that competency. A caution is that achievement of all objectives is not equated with achieving the competency, and achieving one objective does not necessarily indicate acheivement of another related objective. Application of the concept of general systems theory is that the whole (competency) is greater than the sum of its parts (instructional objective). The interrelationships of the parts produce the larger whole. Objectives indicate which instructional strategies may be best for achieving the objective. Analysis of all the constraints affecting instruction will lead to the best selection of an instructional strategy for each objective. Instructional tests measure the attainment of an objective. The criteria standard of performance is determined by the level which optimizes performance of the competency.

Program operation is the day-to-day and long range management and planning of the curriculum. It consists of many components of which only a few are mentioned here. Decisions based on program parameters of content, assessment, instruction, money, faculty, student, and facilities are necessary for the design and operation of any curriculum. This is even more necessary with CB curriculum and usually more usable data is provided to assist in decisionmaking if it is desired and utilized appropriately. Simply stated, this component consists of the planning and management of the system.

Lastly and usually omitted, though very important, is the program maintenance function. This is more than the feedback of results to students of their perfor-

mance, evaluation of instruction, and assessment of instructional strategies. It is that plus, the overall evaluation of the system in terms of accomplishment of the competencies by students and achievement of the goal(s) of the CB curriculum. Also, included is the vital re-examination of the competencies to insure that they are contemporary professional pharmacy and the review of content for instructional objectives to insure that instructional content and assessment keeps pace with charge knowledge.

The preceding was presented to provide a brief introduction into what the initial identification phase of CBC development could lead to. A choice is provided. Should the competencies or instruction be developed first? If competencies are to be developed first then all other parts of the curriculum flow from it. Development of instruction first could influence the competencies ultimately attained by the curriculum though not necessarily. That procedure would not necessarily be the most efficient use of resources as more revision usually tends to be necessary. In reality the best design for such a project results in the skillful blending of both as an established program must continue to operate.

PROCEDURE USED FOR COMPETENCY IDENTIFICATION

Competency identification is either an analysis or synthesis procedure depending upon the goal. Identifying currently needed competencies can best be done through analysis while creation of the "should have" variety of competency is a job for synthesis. Simply stated, analysis is the separation of the functioning of a competent practitioner into the component parts while synthesis is the combination of components to create a new type of competent practitioner. In analysis what is wanted is to create more practitioners like those which exist, and in synthesis to create something new that will fulfill previously unmet needs. Typically, both analysis and synthesis procedures would be necessary to develop competencies for a training program.

This project began using an analysis procedure for competency identification. The procedure used is a modification of the goal analysis process developed (reported) by Mager (1972) for obtaining consensus among a group of people. It includes the following steps: a panel is selected; descriptive words and phrases are elicited from each panel member; all responses are recorded; then the panel meets to edit the list by eliminating nonessential and combining duplicate entries, adding items to complete deficient areas, and to rewrite in performance terms. Competency statement lists were considered complete when the panel members were willing to agree that a person has the necessary competencies to be labeled a competent professional pharmacist. In this project three such lists were developed: one for community (single owner, partnership, and chain), another for institutional (hospital, clinic, and nursing home) practice, the third is for the general practice of pharmacy (competencies common of everyone labeled a practicing professional pharmacist).

This activity was completed under the guidance of the Professional Education Committee (PEC) Steering Committee for Professional Competency (see Appendix A for membership list). Members of the committee were selected to represent all units of the College of Pharmacy with the addition of a student and state association practitioner member. The committee was charged with guiding the initial competency identification efforts, reviewing the work as it progressed, selecting competency identification panel members, establishing the geographic scope and organizational rationale for the competencies established, and accepting a timetable for competency identification (see Appendix B). They provided the critical input of faculty, practitioner, and students necessary to develop a potentially acceptable product. All efforts of the committee were reported to the PEC and all faculty for comment.

Panels were selected to identify community practice, institutional practice, and the competencies common to all with reference to the practice of professional pharmacy. Every effort was made to provide panel membership representative of all

types of practioners. The community practice panel consisted of a single owner, chain, partnership, employee, and supervisor pharmacists from rural and urban areas of Minnesota. It (community practice panel) also had an institutional pharmacist, College of Pharmacy faculty member, and a consumer of health care non-pharmacist. Care was taken with every panel to provide a range of years of experience including a recent pharmacy graduate and three pharmacists with more than three years experience. The institutional practice panel consisted of hospital, clinic and nursing home pharmacists. A community practice pharmacist, a College of Pharmacy faculty member, and a nonpharmacist health care consumer were included. In this case care was taken to provide membership representation from rural, urban, state, public, and private institutions of large, medium, and small size. The general practice panel (competencies needed by all pharmacists) included a composite membership representative of the characteristics of both the community and institutional practice panels. A list of panel membership by panel is included as Appendix C.

Immediately after the steering committee had identified potential panel members, those persons identified were contacted by the consultant to determine their acceptance. One person nominated was unavailable for the dates selected, but an alternate for that person and all others did accept. All panel members were sent a letter of explanation and "charge" of the panel (see Appendix D). One paragraph was modified for members of each panel to provide a clear understanding of their responsibility.

The panel members were requested to send a listing of all the words and phrases they as an individual would use to describe a competent pharmacist relative to institutional practice, community practice, or general needs. All panel members complied with that request. Those words and phrases were written on large (2' X 3') sheets of newsprint by the panel to which they belonged. Each resultant list represented the effort of only one panel. No effort was made to specially

group the material or identify it by author. After all lists were received and written on the newsprint, the PEC Steering Committee for Professional Competency Identification members reviewed the content to identify and fill in any gaps they perceived. No items were deleted, only new material was added. Then the lists were typed and made publicly available for comment in Appleby Hall, Fenwick Hall, and the University Hospital. A copy of those lists in final form and the charge as announced to all faculty via personal communication, PEC bulletins, and during an all college faculty meeting is presented as Appendix E. In addition, the executive office of both the Minnesota State Board of Pharmacy and Minnesota State Pharmaceutical Association were invited to review the lists and make additions and other comments.

Words and phrases collected in the manner described above were the grist for a two day session of the three panels (an agenda is included as Appendix F). As indicated earlier, the panels reviewed the lists for duplicates and combined them. Fuzzy or unclear statements were clarified to the satisfaction of all panel members. Unnecessary competencies were deleted. Necessary though missing competencies were added. When the membership of each panel agreed that if any one or more of the competencies were missing, the person would not be competent; and, their modification stopped. Then the statements were grouped by common intent and/or content. Measurable terminology was reviewed to insure clarity of the statements and a distillation statement of the content was written and accepted. In the end each of the panels agreed by consensus that a person had to have all the competencies they individually identified for them to label them as competent in institutional practice, community practice, or as having competencies required of all pharmacists. Competencies of all three panels were not combined as their charges as panels were different (see Appendix D for those charges).

The last activity for the panels during the two-day session was to provide descriptions of a person's behavior who is performing acceptably with reference

to a competency. This was requested for each panel for every competency that panel produced. Performing this task provided another review of the competencies and input into the proposed evaluation and validation study. Each panel did not complete this task. The results are not reported here as they are not part of this project.

A social psychologist was involved in the panel sessions as a process observer. The purpose was to insure a common approach to the problem and limit direction and leading by the three panel session leaders. Reports on progress were given each leader during morning, lunch and afternoon breaks as well as after the session each day and other times as needed to keep the group on task. Generally the three panels adhered to the agenda and procedures of goal analysis. A summary report of the observer is included as Appendix G.

Output (competency statements) of the competency identification panel session was typed and submitted for an editorial review by the PEC Competency Identification Steering Committee. The review was not intended to change in any manner the content or intent of the competency statements. It had as its objective the improvement of measurable words used, grammar, spelling, punctuation and possible rewording to reduce wordiness or the number of separate overlapping statements. Generally the goal was to improve communication. The three edited lists of competency statements were returned to a few local members of the competency identification panel, for each of the three panels, for their comment in terms of there not having been a change in intent or comment.

When those local members were willing to accept that intent or content had not changed, then the statements (the original material from the sessions was included for comparison) from each of the panels were sent to every member of the originating panel for their acceptance, modification, or rejection with reference to change of intent or content (the letters and statements are included as Appendix F). Every panel member returned a signed statement of acceptance and willing-

ness to label as competent (with reference to the panel's charge) a person who exhibited all the competencies identified by their panel. Then complete (three) the accepted competency statements were sent to all panel members. The competencies generated and accepted by each panel are included as Appendix H. They are presented, as generated, in three different styles. Institutional and Community lists include a content analysis, and the General is presented as competency statements. The content analysis may change more frequently than the competencies themselves. For evaluation and validation competencies alone will be used.

This concludes the phase of the competency-based curriculum identification project labeled (initial) competency identification. The next phase is competency validation and evaluation. Subsequent steps were presented briefly in the early sections of this report. Readers are referred to there for additional information.

RECOMMENDATIONS FOR FURTHER DEVELOPMENT

A concern many individuals have when they embark on a new venture is will anything be done with the results and will it make a difference for the better. It is easy to determine if something is done with the results as one needs only ask. The second part dealing with improvement is subjective, to a degree. Nevertheless, if there is a goal which is valued by those concerned and that goal is perceived as being closer to attainment as an outgrowth of the results, then a probable difference for the better has resulted. Such a concern exists in the minds of those who participated in the competency identification panel sessions as indicated by their comments and long hours. Such a concern probably exists within the PEC members and the PEC Competency Identification Steering Committee.

The decision on action rests with the College of Pharmacy. Recommendations are presented as input for the decisionmaking process.

1) The competencies identified by the panel should be examined through a rigorous validation and evaluation procedure.

2) Care should be taken to prevent premature implementation, modification, acceptance, or rejection of these (as of yet) unsubstantiated competency statements. They should be treated as hypotheses and tested as such.

3) A decision should be reached concerning the overall curriculum development model for which energies and resources of the College of Pharmacy will be directed. The individualized, personalized, prescriptive approach appears to be what is desired and if such is the case it should continue to be supported. Decisionmaking on evaluation, courses, content, and development of instructional material (curriculum) should be made with deference to the model selected.

4) A set of competency statements should be identified and accepted in a manner known to those who are concerned, i.e., public, pharmacists, faculty, staff, and students. All curriculum should be directed to the achievement of those competencies in the most effective and efficient instructional program possible.

5) For the near future curriculum development should proceed with the assumption that the competencies reported here will be accepted, at least in their general intent and content. Simply, this should be in terms of the output or competencies a graduate is able to demonstrate.

6) Lastly, the "should" class of competencies should be developed, validated, and evaluated. This would round out a comprehensive curriculum in which primary emphasis would be focused on the "necessary" class of competencies.

APPENDIX A

MEMBERSHIP OF PEC STEERING COMMITTEE FOR PROFESSIONAL COMPETENCY IDENTIFICATION

James Clinite, Institutional practice
Daniel Dobbert, Chairman
Martin Jinks, Professional Practice
Kenneth Miller, Drug Delivery
Mahmoud Abdel-Monem, Drug Action
E. John Staba, Ex-officio
Brad Stanius, Community practice
Albert Wertheimer, Social practice
Renee Wong, Student

APPENDIX B

TIMETABLE FOR COMPETENCY IDENTIFICATION

Final

CALENDAR OF CRITICAL EVENTS

May 23, 1975	Establish competency identification committee.
May 29, 1975	Agreement achieved concerning organization for CB identification.
June 10, 1975	Date and site for panel meeting set. Staff identified and committed.
June 10, 1975	Analysis panels identified.
June 12, 1975	Panel participants confirmed and task given by letter.
June 20, 1975	Follow-up to insure response to task.
June 25, 1975	Panel members resonses received.
June 30, 1975	Words and phrases reviewed, then written on newsprint.
July 25, 1975	Panels will have met and results typed for technical review.
August 1, 1975	Technical review completed and competencies are written in behavioral form.
August 6, 1975	Objectives are sent for review by panel to verify that content has not changed. Also, panel members are assigned to write 10-20 positive and negative behaviors for each competency.
August 11, 1975	Send follow-ups and behavior listings.
August 21, 1975	Approvals and behavior listings received.
August 31, 1975	Final report written and competencies ready for validation.

APPENDIX C

COMPETENCY IDENTIFICATION PANELS' MEMBERSHIP

General Practice

Steven Ryan, practicing pharmacist
Thomas Gaylord, practicing pharmacist
Roy Olson, practicing pharmacist
Michael Frakes, recent graduate
Helen Kelley, consumer representative
James Henkel, faculty

Community Practice

James Garrison, practicing pharmacist
Douglas Stark, practicing pharmacist
Richard Peterson, practicing pharmacist
Nancy Clobes, recent graduate
Austin Sherwood, consumer representative
John McRae, faculty

Institutional Practice

Al Carlson, practicing pharmacist
Neal Schwartau, practicing pharmacist
Leslie Kotek, practicing pharmacist
Richard Jansen, recent graduate
Fran Bly, consumer representative
John Bush, faculty

APPENDIX D

LETTERS TO COMPETENCY IDENTIFICATION PANEL MEMBERS

UNIVERSITY OF MINNESOTA
TWIN CITIES

College of Pharmacy
115 Appleby Hall
Minneapolis, Minnesota 55455

June 12, 1975

Dear

We appreciate your agreeing to serve on the University of Minnesota, College of Pharmacy, Competency Identification Panel for the Practice of General Pharmacy. Your task has three important parts: 1) word and phrase identification; 2) meeting as a group for two days to state and clarify competency statements; and 3) acceptance of competencies and providing a description of performance. Completion of these tasks to the best of your ability will make the subsequent evaluation and validation of competency statement procedures less costly in terms of time and necessary revision.

The first assignment is to forward to us, by June 25, 1975, a list of those words and phrases which you would use to describe performances that would cause you to agree an individual is practicing professional pharmacy. The words and phrases need not be measurable or grammatically correct. It is important though that you write down the performances that would cause you to agree a person is practicing professional pharmacy without regard for their duplication or fuzziness. We do not desire statements (words and phrases) which describe performance(s) unique to an institution, setting or specialty for the practice of professional pharmacy but rather performances generic (common) to all who practice professional pharmacy.

Step two is for you to attend and actively participate in a two day work conference at the Hyatt Lodge, July 22 and 23, 1975. Please check into the Hyatt Lodge the night before or arrive by 8:30 a.m. so we may begin by 9:00 a.m. Please let me know if you will be staying at the hotel so proper reservations can be made for you. The work session will run on both days, from 9:00 a.m. to 5:00 p.m., with an hour for lunch and two thirty minute breaks. During this work session you will refine the words and phrases into complete measurable statements for each performance, describing the nature, quality, or amount you will consider acceptable. You will also prepare a list of 10-20 behaviors for a person demonstrating the competency and the same for a person who does not demonstrate the competency.

The third task is for you to review our technical clean-up of the work performed at the two day work session. Your responsibility will be to verify that we have not changed the content of the statements derived at the work session. We hope to have you sign and return a statement to that effect as a formal indication of your acceptance.

Your travel expenses, meals, and lodging will be paid by the College of Pharmacy. In addition we will provide a small honorarium as a token of our sincere appreciation for your work. We realize that the task you are about to embark on is awesome and you have our appreciation and gratitude for participating.

Thank you. If you have questions please call me collect, if necessary, at (612) 376-7454 or 376-5052. We look forward to receiving the words and phrases by June 25, 1975 and to seeing you at the Hyatt Lodge, 41 North Tenth Street, Minneapolis, July 22 and 23, 1975.

Sincerely,

Daniel J. Dobbert

Daniel J. Dobbert
Consultant and Chairman of
Competency Steering Committee

DJD:jl

UNIVERSITY OF MINNESOTA
TWIN CITIES

College of Pharmacy
115 Appleby Hall
Minneapolis, Minnesota 55455

June 12, 1975

Dear

We appreciate your agreeing to serve on the University of Minnesota, College of Pharmacy, Competency Identification Panel for the Practice of Community Pharmacy. Your task has three important parts: 1) word and phrase identification; 2) meeting as a group for two days to state and clarify competency statements; and 3) acceptance of competencies and providing a description of performance. Completion of these tasks to the best of your ability will make the subsequent evaluation and validation of competency statement procedures less costly in terms of time and necessary revision.

The first assignment is to forward to us, by June 25, 1975, a list of those words and phrases which you would use to describe performances that would cause you to agree an individual is practicing professional pharmacy in a community (chain, sole proprietorship, partnership, etc.) setting. The words and phrases need not be measurable or grammatically correct. It is important though that you write down the performances that would cause you to agree a person is practicing professional pharmacy in a community setting without regard for their duplication or fuzziness. We desire statements (words and phrases) which describe performance(s) unique to the practice of professional pharmacy in the community setting.

Step two is for you to attend and actively participate in a two day work conference at the Hyatt Lodge, July 22 and 23, 1975. Please check into the Hyatt Lodge the night before or arrive by 8:30 a.m. so we may begin by 9:00 a.m. Please let me know if you will be staying at the hotel so proper reservations can be made for you. The work session will run on both days, from 9:00 a.m. to 5:00 p.m., with an hour for lunch and two thirty minute breaks. During this work session you will refine the words and phrases into complete measurable statements for each performance, describing the nature, quality, or amount you will consider acceptable. You will also prepare a list of 10-20 behaviors for a person demonstrating the competency and the same for a person who does not demonstrate the competency.

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Sincerely,

Dan Dobbert

Daniel J. Dobbert
Consultant and Chairman of
Competency Steering Committee

DJD:jl

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TWIN CITIES

College of Pharmacy
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Minneapolis, Minnesota 55455

June 12, 1975

Dear

We appreciate your agreeing to serve on the University of Minnesota, College of Pharmacy, Competency Identification Panel for the Practice of Institutional Pharmacy. Your task has three important parts: 1) word and phrase identification; 2) meeting as a group for two days to state and clarify competency statements; and 3) acceptance of competencies and providing a description of performance. Completion of these tasks to the best of your ability will make the subsequent evaluation and validation of competency statement procedures less costly in terms of time and necessary revision.

The first assignment is to forward to us, by June 25, 1975, a list of those words and phrases which you would use to describe performances that would cause you to agree an individual is practicing professional pharmacy in an institutional (hospital, nursing home, clinic, etc.) setting. The words and phrases need not be measurable or grammatically correct. It is important though that you write down the performances that would cause you to agree a person is practicing professional pharamcy in an institutional setting without regard for their duplication or fuzziness. We desire statements (words and phrases) which describe performance(s) unique to the practice of professional pharmacy in the institutional setting.

Step two is for you to attend and actively participate in a two day work conference at the Hyatt Lodge, July 22 and 23, 1975. Please check into the Hyatt Lodge the night before or arrive by 8:30 a.m. so we may begin by 9:00 a.m. Please let me know if you will be staying at the hotel so proper reservations can be made for you. The work session will run on both days, from 9:00 a.m. to 5:00 p.m., with an hour for lunch and two thirty minute breaks. During this work session you will refine the words and phrases into complete measurable statements for each performance, describing the nature, quality, or amount you will consider acceptable. You will also prepare a list of 10-20 behaviors for a person demonstrating the competency and the same for a person who does not demonstrate the competency.

The third task is for you to review our technical clean-up of the work performed at the two day work session. Your responsibility will be to verify that we have not changed the content of the statements derived at the work session. We hope to have you sign and

return a statement to that effect as a formal indication of your acceptance.

Your travel expenses, meals, and lodging will be paid by the College of Pharmacy. In addition we will provide a small honorarium as a token of our sincere appreciation for your work. We realize that the task you are about to embark on is awesome and you have our appreciation and gratitude for participating.

Thank you. If you have any questions please call me collect, if necessary, at (612) 376-7454 or 376-5052. We look forward to receiving the words and phrases by June 25, 1975 and to seeing you at the Hyatt Lodge, 41 North Tenth Street, Minneapolis, July 22 and 23, 1975.

Sincerely,

Daniel J. Dobbert
Consultant and Chairman of
Competency Steering Committee

DJD:jl

APPENDIX E

WORDS AND PHRASES RECEIVED AND NOTICE TO FACULTY

PEC Bulletin - 32
July 3, 1975

STEERING COMMITTEE
FOR PROFESSIONAL COMPETENCY IDENTIFICATION
MEETING
(6-30-75 - 7:30 a.m.)

Present: Clinite, Dobbert, Jinks, Monem, Wertheimer, Wong.
Absent: Miller, Stanius.

1. Words and phrases from panel members. The lists of words and phrases received from panel members in response to a June 12 letter were examined by committee members for additions. In the letter to panel members, panel members had been requested to forward "words and phrases which you would use to describe performances that would cause you to agree an individual is practicing professional pharmacy." (Or professional pharmacy in a community [chain, sole proprietorship, partnership, etc.] setting if on the community practice panel; or professional pharmacy in an institutional [hospital, nursing home, clinic, etc.] setting if on the institutional practice panel.) It was decided to post the lists in the College for any additions faculty might wish to make. Lists for general practice, community practice, and institutional practice are posted on the first floor of Appleby Hall on the wall outside of the main office, in Fenwick and at the hospital. Feel free to make any additions. The words and phrases need not be measurable or grammatically correct; they will be refined at the work sessions July 22 and 23.

2. Next meeting: Tuesday, July 29, 7:30 a.m., Conference Room, Appleby Hall.

Respectfully submitted,

Jean Lunde

cc: Faculty
PEC
College Board President

GENERAL

1. Contribution to the students in the professional school.
2. Professional organization participation.
3. Ability to locate information needed for answering questions received in daily practice.
4. Accuracy of record keeping and knowledge of various systems.
5. Administrative ability.
6. Patient consultative ability.
7. Continuing education activities.
8. Interdisciplinary approach to community health care.
9. Basic elements of institutional pharmacy practice.
10. Ethical consideration of fellow practioner.
11. Clinical pharmacy education adequate for contribution to other professionals in individual settings.
12. Accuracy of dispensing.
13. Familiarity with prescription drug products.
14. Knowledge of OTC medications.
15. Adequate compounding ability.
16. Knowledge of legal aspects of practice.
17. Interprofessional relations.
18. Public health background of area served.
19. Be aware of the pharmacologic actions of all drugs dispensed or handled.
20. Be aware of the quality control procedures used to analyze all of the drug substances used.
21. Be familiar with the integrity of any manufacturer he deals with.
22. Maintain current awareness of new bioavailability data as it appears and be able to evaluate it.
23. Maintain competency through continuing education and contact ghrough professional journals.
24. Be competent in inventory control and management, for possible recall measures.
25. Recognize manifestations of adverse drug reactions.
26. Consulting with patients on OTC preparations.
27. Screening patients and referring to physician if problems are recognized.
28. Critically evaluate manufacturers claim of drug quality and potency.

29. Choose best brand of drug for patient.
30. Monitor dosage regimens for interaction.
31. Maintain patient records (profiles).
32. Be a good scientist, i.e. have ability for problem solving and inductive reasoning.
33. Will recommend other resources or will obtain not-on-hand medication rapidly.
34. Handling of aid-to-disabled medications agreeably.
35. Dispense medication.
36. Consultation with patients regarding effects of drugs.
37. Maintain highest possible quality drugs.
38. Instills confidence.
39. Reliability.
40. Accuracy.
41. Organization.
42. Cleanliness.
43. Caring concern.
44. Keeping head under pressure.
45. Currently informed.
46. Will make recommendations for patient medicines.
47. Will recommend less expensive generic medications.
48. Socio-economic awareness and understaning.
49. Patient awareness and compassion.
50. Understanding of laws and legal implications.
51. OTC knowledge.
52. Rx drug knowledge.
53. Rx dispensing knowledge.
54. Ability to communicate.
55. Community awareness and sensitivity to community expectations.
56. Good communication skills
    patient
    other professionals.
57. Motivated by people (empathy).
58. Able to motivate others.
59. Recognizes the business aspect of pharmacy.
60. Strong, basic pharmacology background.
61. Ability to use references, and to recognize when they should be used.

62. Pride in work.
63. Make independent decisions
    professional
    business.
64. Common sense.
65. Reliable (sees things to their end).
66. Enthusiastic.
67. Recognizes a "psychology of the sick."
68. Solid background in pharmaceutical sciences.
69. Emits sense of trust to others.
70. Ability to evaluate new products on basis of dosage forms, bioavailability, effectiveness, etc.
72. Ability to evaluate literature as to statistical significance, relativity to experimental design, effectiveness or reliability of experimental design and implementation.
73. Knowledge of what references are needed to answer questions from M.D.'s about anything drug related, and availability of same.
74. Working knowledge of significance of drug side effects and what to do about them, i.e. dry mouth from anticholinergics - use gum or hard candy.
75. Working knowledge of best times to take drugs and on which ones it makes a difference (including product names).
76. Working knowledge of drug interactions and significance of same.
77. Working knowledge of iatrogenic diseases.
78. Working knowledge of problem oriented medical records.
79. Working knowledge of profiles and how to use them.
80. Understanding of compliance problems and techniques used to improve it.
81. Working knowledge of trade and generic names and dosage schedules.
82. Well stocked library and journals.
83. Understanding of advertising techniques with eye toward separating fact and fiction and subtle pressure used in journals and pharmaceutical literature.
84. Knowledge of communications techniques.
85. Background in ethics and public obligations.
86. Knowledge of significant lab interactions.
87. Participation in professional organizations.
88. Participation in community organizations.
89. Provide emergency services.
90. Provide special ordering service.
91. Sensitivity to significant medical groupings (old, black, etc.).
92. Willingness to discuss candidly any and all things a patient wishes to discuss.

93. Active dissemination of health information on V.D., birth control, blood pressure, and any or all medical topics.
94. Use patient med sheets.
95. Participation in continuing education projects above law requirements.
96. Willingness to refuse the filling of a prescription if you feel it is not in the patient's best interest.
97. Confidence in self and profession.
98. Active participation in inservices and dissemination of medical information related to drugs to all medical personnel to improve their usefulness to the team and patient.
99. Maintaining confidentiality of patient information.
100. Know and practice sterile technique.
101. Familiarity with I.V. and hyperalimentation.
102. Proper recommendation of OTC and counseling to avoid having the patient cheated or taking things they should not for their condition.
103. Be able to give information on medical appliances.
104. Be able to refer people to local organizations able to help them with particular problems, esp. the elderly.
105. Be able to recognize adverse reactions or toxicity (be familiar with signs and symptoms of common ones).
106. Be familiar with drug history techniques.
107. Ability to win confidence of patients - good judgment on <u>how much</u> information to give to patient and to provide advice on only those medications that pertain to that patient's disease state(s) as it relates to himself/herself.
108. Not be hesitant to recommend a competitor's services if own operation does not provide a particular medication or service.
109. On the lookout for new and innovating ideas that may be significant contributions to the field of pharmacy.
110. Provide a source of community health information and education.
111. Know the political system and ways to influence it regarding health delivery systems and pharmaceutical services.
112. Rx knowledge - break into components
    synonyms (trade/generic)
    dose and range
    regimens.
113.
114.

COMMUNITY

1. Uses knowledge for benefit of others.
2. Trustworthy.
3. Professional attitude and ability.
4. Interest in pharmacy.
5. Concern for patients exceeds concern for profit (will not refill Rx even if it is profitable).
6. Flexibility.
7. Integrity.
8. Development of trust in others.
9. Versatility.
10. Financial understanding.
11. Expels confidence.
12. Tactful.
13. Go-between doctors and patients.
14. Genuine concern for others.
15. Desire to serve public.
16. Ability to confront problems.
17. Awareness of finanacial necessities businessman, professional, and humanitarian.
18. Take care of health needs.
19. Fill medical prescriptions.
20. Fill medical needs.
21. Civic-minded.
22. Takes pride in serving the public.
23. Concerned about needs.
24. Patient-oriented.
25. Giving out information on all new Rx's.
26. OTC consultation.
27. Having pamphlets and other information about drugs available to the patient.
28. Individual consultation available in private.
29. The pharmacist must be confident about his drug information.
30. Must know and understand drug interactions.
31. Having a patient-profile system and using it for interactions, not for watching prices.

32. Knows his OTC's and recommends or carries only the best not the ones he makes the most money on.
33. Knows the areas of referral and when to refer the patient.
34. Knows the laws and regulations and follows them.
35. Understands pharmacology and knows the advantages of one drug over another.
36. Knows therapy courses and could review charts in nursing homes with confidence.
37. Good communication and mutual respect as a member of the health care team.
38. Use "human touch" when dealing with customers and co-workers.
39. Fill prescriptions accurately.
40. Be able to see things in proper perspective.
41. Be economically competent when buying and selling.
42. Work with "good humor."
43. Be clinically aware.
44. Relate professionally to M.D. etc.
45. Be able to assume responsibility and carry out managerial tasks.
46. Demonstrate ability to compoundmedications in those (emergency) situations where it may be deemed necessary.
47.
48.
49.
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56.

INSTITUTIONAL

1. Demonstrate the ability to maintain a good pharmacist-patient relationship.
2. Be consultant, distributor, or both; must be a good professional practitioner.
3. Able to write a consultant's agreement that will meet requirements of accrediting and licensing bodies.
4. Understand and work within the individual facility's philosophy.
5. Have concern for the facility's responsibilities (to patients, legally, etc.) as well as his own.
6. Demonstrate the ability to provide inservice education and unsolicited drug information.
7. Know the functions and purpose of a formulary system.
8. Become familiar with and show knowledge of various drug delivery systems.
9. Know the functions of a P and T committee and the pharmacist's involvement.
10. Be able to recognize and report adverse drug reactions.
11. Advise on record keeping - renewal of drugs, processing of physician's written orders and records of drug administration. (This combines closely with nursing.) Creative in designing forms. Compliance with regulations.
12. Teaching responsibilities - classes for nursing staff on drug disease relationships, drugs used extensively in geriatrics, nursing techniques as they relate to drugs.
13. Assist the facility in writing a policy and procedure manual in compliance with regulations and to meet standards acceptable to the facility and the pharmacist. Leadership skills - interest in initiative, commitment to this role.
14. Advise the facility and help them establish medication systems for storage, handling, labeling and disposing of drugs. Also must take responsibility for the emergency kit.
15. Become familiar with floor stock procedures and systems.
16. Know the laws governing pharmacists' responsibility for narcotic control within a hospital, on nursing stations and in the pharmacy.
17. Know the drug information sources available and demonstrate the ability to use them.
18. Demonstrate the ability to interact with other health professionals in a professional manner (i.e. personal interaction).

19. Ethics - not re-use drugs, monitoring money exchange, should recommend use of less drugs if indicated.

    Pricing should be fair and consistant.

20. Public relations - should be willing to satisfy patient's questions re: drug bills.
21. Job relationships - communicate effectively with administration, physicians, nursing staff.
22. Must be an available person for information and to assist with emergencies.
23. Demonstrate an understanding and concern for economic factors of health care; i.e. cost of antibiotics, brand selection, drug distribution systems. Should understand, evaluate, and recommend on unit dose systems.
24. Review Health and/or Welfare Department recommendations and advise the facility on response or action.
25. Should be involved in the overall quality assurance program of the facility - understand that his role is one component of a whole.
26. Review functions - quarterly station review to monitor nursing performance. Monthly chart review - chart check diagnosis, medication interactions, adverse drug reactions, implications for laboratory tests. Extensive understanding of drug utilization. Communicate with facility and physician on information found in review. Establish a course of action.
27. Be knowledgeable in area of medical supplies (catheters, irrigation sets, feeding tubes, dressings, etc.).
28. Recommend reference books. Inform administration of changes in drug restrictions, drug re-calls, etc. Implement changes as necessary.
29. Committee functions - contribute and may proyide leadership on Pharmaceutical Services Committee, Infection Control Committee, Safety Committee, Research Committee, and Utilization Review Committee. Participate in medical care evaluation studies - recommend need for drug study, help set criteria, assist with implementation and recommend any necessary action.
30. Sociology of health care.
31. Health care institutional organization.
32. Knowledge of functions and responsibilities of other health care personnel: i.e. nurses, physicians, respiratory therapists, dialysis technicians, EKG technicians, social workers, etc.
32. Business administration.
33. Fiscal management.

34. Personnel management and supervision.
35. Parenteral therapy.
36. Drug administration.
37. Aseptic technique.
38. Sterilization methods.
39. Treatment equipment, i.e. suctions, respirators, pacemakers.
40. Ability to critically evaluate medical and pharmaceutical literature.
41. Laboratory tests.
42. Nosocomial infections.
43. Interporfessional relationships.
44. Self confidence.
45. Verbal communication skills.
46. Written communication skills.
47. Design of investigational drug studies.
48. Patients' rights and informed consent.
49. Hospital and pharmacy law.
50. Ethics.
51. Pharmacotherapeutics.
52. Computer applications to health care.
53. Understand the basics of research or drug studies so that they may coordinate or participate in one.
54. Know the laws and regulations pertaining to hospital pharmacy.
55. Know the laws and regulations pertaining to skilled nursing facilities, and be able to monitor their drug therapy.
56. Know the importance of a patient drug history and how to take one.
57. Know the ideal properties of a pharmacy's complete patient profile and demonstrate how to use it in monitoring for drug interactions, etc.
38. Know the advantages of receiving a copy of the physician's original order and demonstrate the ability to interpret such orders.
39. Know the properties, advantages and disadvantages of parenteral medications.
40. Demonstrate the ability to interpret, calculate and compound an order for a parenteral hyperalimentation solution.
41. Know the basic causes for I.V. incompatabilities and where to find information on this subject if asked.
42. Know the rational for unit dose dispensing and basically how it functions.
43. Know the purpose, function and rational of a pharmacy based I.V. admixture program.

44. Know the purpose, indication. potential problems and products used in parenteral hyperalimentation.
45. Know the sterile technique required with an I.V. additive program.
56. Interdepartmental relations and communications.
57. Proper drug distribution system for the particular institution also considering pharmacy staff available.
58. Monitoring I.V. therapy in relationship to disease state and patient.
59. Monitor compatabilities and incompatabilities of various mixed medications.
60. Preparation of institution and government agency reports peculiar to institutional pharmacy.
61. Pharmacy involvement at patient care area.
62. Pharmacy-nurse relationship pertaining to communication and aiding each other's discipline for improved total patient care.
63. Understanding lab values in relationship to disease state and drug therapy.
64. Medical terminology that has relationship to institutional drug therapy.
65. Interactions and medical significance of laboratory tests with drug therapy and vise-versa.
66. Ability to interpret vital signs and their ramifications to drug therapy.
67. Inservice education for nursing staff.
68. Should be knowledgeable to as great a degree as possible about all drugs: their actions, indications, dosages, contraindications, and side-effects.
69. Must have a good understanding of the anatomy and physiology of the body.
70. Must have a good understnading of the pathology of disease states.
71. Must have a good understanding of dosage forms and be capable of compounding the various dosage forms including sterile products when called upon to do so.
72. Must have a solid background in pharmaceutical math relating to dosage, fluid therapy, and compounding.
73. Must have a good understanding of clinical lab values and their use in determining appropriate drug therapy.
74. Must have good communication skills for teaching, patient consulting, and inter-communication with other health professionals.
75. Must develop a good reading program of current literature in order to keep on top of the latest information available.
76. Must take an active role in his professional organizations in order to support and strengthen the profession of pharmacy.
77. Must have the ability to research, interpret, and objectively evaluate drug information.

78. Must be familiar with and know the various medical records that give valuable information regarding the patient.
79. Must contribute to the pharmacy desemination of drug information to other departments and health professionals and non-professionals.
80. Perform bulk compounding/manufacturing/prepackaging with regard to 1) technology and 2) legal requirement (labeling, records).
81. Perform exit interview for discharge medications.
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96.

APPENDIX F

AGENDA COMPETENCY IDENTIFICATION SESSION

Developed by:
Dan Dobbert

Draft 1
June 6, 1975

PRACTICE OF PHARMACY
COMPETENCY IDENTIFICATION PROJECT

Competency Analysis Session

Participants

9:00 a.m.-5:00 p.m. for
two days

PROGRAM EVENTS	ACTIVITIES
1. Flipcharts instruction	1. Add, modify or eliminate necessary words and phrases, identify fuzzies.
2. Instructions	2. Divide into groups of two and rewrite fuzzies, hand in as completed.
3. Flipcharts	3. Eliminate or add. Pick out fuzzies. Reprocess fuzzies (to 2 above as necessary).
4. Flipcharts	4. Sort words and phrases into groups with common intent.
5. Flipcharts	5. Write complete statement for each group describing the nature, quality, or amount you will consider acceptable.
6. Flipcharts	6. Test statements - "If someone achieved or demonstrated each of these performances would you be willing to say he/she achieved the goal?" When everyone on the panel can answer yes, the competencies have been identified. (if no, recycle to 1 above as necessary)

MUST BE TO THIS POINT BEFORE EVENING BREAK.

7. Competency statements on flipcharts	7. In groups of two write 10 behaviors for a person performing acceptably for each competency and 10 behaviors for each competency for a person per-

	forming unacceptably. Do this in capital letters on large pieces of paper and label them by competency.
8. Behaviors on large sheets	8. Review for duplicates or unnecessary.
9. Behaviors on flipcharts	9. Eliminate fuzzies by clarifying.
10. Flipcharts	10. If a person demonstrated these behaviors would he/she be competent in the competency, and for these behaviors would he/she be incompetent? Do this for each competency. WE ARE FINISHED WHEN EVERYONE AGREES TO 20 BEHAVIORS FOR COMPETENT AND 20 BEHAVIORS FOR INCOMPETENT.

APPENDIX G

PROCESS OBSERVER REPORT

C. Anderson Johnson, Ph.D.

The process observer observed the three work panels as they went about their respective tasks. An attempt was made to evaluate and record process differences which emerged among the three panels to substantiate whether or not any differences in outcomes might have been due to different instructions delivered to the panels or to different procedures adopted by the panels.

The observer wandered back and forth among the panels staying with each no fewer than twenty minutes and no more than ninety minutes for any given observation period. An attempt was made to spend equal amounts of time with each panel and, for the two days taken together, was reasonably successful. However, since one panel (Institutional Pharmacy) spent much of the first day in two-person work groups, the observer spent relatively little time observing them on day one and a disproportionate amount of time observing them on day two. The other two panels were observed for roughly equal periods on days one and two respectively, and both were observed for longer periods on day one than on day two. The observer attempted to assume and maintain a role as passive observer throughout day one, commenting to panel leaders only during breaks or in privacy. During day two the observer became more active, occasionally interrupting panels to inform them when they were deviating excessively from the procedures being employed by the other panels.

The three panels proceeded in quite similar fashions as directed by their common instructions. Each made liberal use of wall charts from which the panel as a whole was able to work. Where differences emerged among the panels they had generally to do with points of emphasis and relative time spent on the various tasks. Many of these differences undoubtedly were the result of the somewhat

different objectives of the three panels and the list of competency statements with which they began their respective tasks. Salient differences were as follows:

Work load

The Institutional Pharmacy panel had far and away the greatest number of competency statements with which to begin its work. The panel leader wisely decided to deviate somewhat from the prescribed procedure to impose order on what could have otherwise been an unmanageable task. Those deviations resulted in early categorization of competencies, and large blocks of time spent in two-person work groups.

Instructions

All three panels were directed by their respective leaders to develop clear, unambiguous, nonredundant, and nonoverlapping competency statements. Each leader emphasized that he was there to compile and clarify but not to be the final arbitrator of panel decisions. Each leader emphasized somewhat different of these points in ways described below.

Direction

As mentioned above the leader of the Institutional Pharmacy panel (Keith Johnson) directed his panel early to develop a finite number of categories in which to cluster the various competency statements. Thirteen categories were initially agreed upon. The other two groups developed category sets more gradually after first expanding their list of competency statements somewhat. The Community Pharmacy panel (Paul Grussing, leader) proceeded in a slightly different way in that they attempted to identify and list each separate step within each of several community pharmacy tasks, e.g., filling a prescription. This procedure produced a very complete list of activities but resulted in some confusion later about which steps should be treated as competency criteria.

Definition of tasks

Definition of a competency criterion. The Community Pharmacy panel insisted more than did the other panels, on including performance requirements along with evidence of capability in their list of competencies. Their emphasis on performance was likely influenced by the way in which they proceeded; that is, by listing each step in a pharmaceutical task. The consequence was to tend toward statements like "must keep a patient profile" rather than "is capable of using and managing a patient profile system."

Emphasis on the basic competency concept. Dan Dobbert (General Pharmacy panel) emphasized more than the other leaders the necessity of developing a list of basic competencies, the absence of any one of which would disqualify a pharmacist as competent. This emphasis was consistant with the intentions and plans for these sessions. Undoubtedly the emphasis on keeping the list basic resulted in a shorter list of competencies than would have otherwise been generated. The Institutional Pharmacy panel, by comparison, interpreted "basic competencies" in a somewhat more liberal fashion, listing all those competencies which could be considered basic to the practice of competent professional pharmacy. Their basic list included competencies the pharmacist "ought to possess" not all of which the majority of practicing pharmacists may presently possess. The Community Pharmacy panel fell somewhere in-between the other two panels in its emphasis on minimal criteria for basic competencies.

Final task: example generation. The Institutional Pharmacy panel chose to ignore the instructions to generate examples of each of their competencies listed, and chose instead to go a step further and generate specific behavioral objectives by reclassifying and rewording certain competency statements into behavior objective language. The other two panels stuck to the instructions and generated a list of examples. They proceeded in somewhat different fashions, however, with the Community Pharmacy panel generating examples throughout the two days and the General

Pharmacy panel, true to the planned format, producing its list in the afternoon half of the second day.

Contribution by participants

The level of enthusiasm and degree of participation was extremely high within each panel. All in all experienced pharmacists seemed to wield the most influence over decisions. Recent graduates were among the most intolerant of what they perceived to be inadequacies in pharmacy training, but experienced pharmacists were generally no less reform-minded. Consumers clearly made the fewest inputs, except in the Institutional Pharmacy panel where the "consumer" was a nurse.

In summary the three panels differed somewhat in the course that they followed to their product. Differences appear to have been dictated largely by workload and by leader orientation. The most expansive group was the one that started with the largest list. The most restrictive group was the one led by the architect of these sessions, who undoubtedly was most critically aware of his intention to define competencies in terms of the basic minimum. Participation and influence was as might have been expected. Both increased with relevant experience.

APPENDIX H

COMPETENCIES GENERATED AND ACCEPTED

GENERAL PRACTICE

A. Maintains competencies through involvement in informal and/or formal continuing education.

Keeps currently informed on standards of pharmacy practice through involvement in informal and/or formal continuing education.

B. Be able to apply principles of good managment practices to all aspects of pharmacy including economic, fiscal, personnel, and inventory controls.

C. Able to evaluate equivalency of multi-source drugs in terms of action and value (clinical and cost) through available data.

D. Able to recognize clinical manifestations of basic adverse drug reactions.

Able to monitor dosage regimens for interaction.

E. Able to consult with patients on proper selection, use, and effects of OTC preparations.

Able to consult with patients regarding use and effects of legent drugs.

Able to provide recommendations (dosage, selection, directions, identification, side effects, and other information) for patient medicines to other health care professionals.

Ability to transmit (to people face to face and via telephone) accurate information and advice to consumers and other health care professionals.

Be able to provide appropriate information on drugs to those requesting it (does not alienate patient, alarm patient, or contradict M.D.; informative on con-

tent, dosage, administration).

F. Can state, explain, and properly use (referral, form completion, and procedures) the components of various health care systems (i.e., public assistance, Social Security, Medi-Care, etc.) in the community.

Able to refer patients to other health care professionals if health problems are recognized.

Can state and apply general health information (first aid, symptoms, simple treatment) for basic community/public health needs.

G. Able to state and apply the general concepts in pharmaceutical sciences (as generally listed in Remington) and pharmacology (as listed in Goodman and Gilman) used in problem solving and inductive reasoning as applied to problems encountered in practice.

Ability to use and locate appropriate references (e.g., Remington, Goodman and Gilman, etc.) and recognize when they should be used to locate solutions to problems and answer questions presented in practice.

H. Demonstrates socio-economic awareness by identification of consumer desires, needs, and interests by accepted community standards for cleanliness, patient awareness (psychology of the sick), and compassion.

I. Has a reason for actions and has given thought to them.

Common sense - knows limits of professional abilities and capabilities.

Reliable (sees things to the end).

Calm - ability to work under pressure.

Capability to make independent decisions (i.e., professional and business).

J. Accurately dispense medication (basic compounding, preparation of drug dosage forms, counting, pouring, labeling, etc.).

Can dispense most common appliances (heating pads, ear syringes, canes, etc.) and sick room supplies. Can consult on use of most common appliances and sick room supplies.

K. States and applies general meaning of pharmacy laws and their implications to the practice of pharmacy.

L. State and explain application of basic terminology, characteristics, and procedures unique by setting (community and institutional) or role (i.e., clinical consulting, etc.) for the practice of pharmacy.

COMMUNITY PRACTICE

Community practice refers to general practice which does not take place in the hospital or institutional practice setting, but in free standing pharmacies in clinics, in neighborhoods, etc....in the "Community."

Each competency is held to be essential for community practice.

High level specialty competencies are not included.

The question of which competencies are delegable was not considered. If delegable, the pharmacist is presumed to be required to have the basic competency for which he is responsible. After identifying competencies, the group grouped them into eleven competency areas. These labels are not etched in stone and the group recognized some overlap in the process of assignment.

I. OTC drugs (includes inorganic "wets and dry's")

The pharmacist:

1. stocks only drugs of accepted quality.
2. recommends only drugs of proven efficacy.
3. has ability to evaluate OTC drug products.
4. knows: drug interactions

   among various OTC drugs

   between OTC and legend drugs.

   knows: indications and contraindications.
5. questions patients' perceived needs for drug and advises patients based on those needs.
6. provides appropriate cautions for drug use.
7. provides explanation of special drug administration procedures.

II. Dispensing prescriptions

The pharmacist....is able to handle the prescription in many steps of the dispensing process, from the acceptance from the patient to the delivery of the dispensed prescription, in a professional manner and setting "secundem artem."

Specifically he:

1. is able to evaluate the accuracy and completeness of the prescription

order.

2. is able to check the prescribed dose for correctness and is able to clarify ambiguities in the order and verify the authenticity of the prescription order.

3. is able to review patient profile using proper clinical procedure.

4. is able to interpret the prescription order, insuring that the required information is translated to the label completely, clearly, and neatly.

5. is able to provide appropriate auxiliary labels and caution labels.

6. is able to select the brand to be dispensed.

   (this judgment may be made prospectively at the time of purchase rather than during each prescription dispensing experience.)

7. is able to select the correct stock container, or ingredients, and to perform a systematic check for accuracy of drug dispensed.

8. obtains refill authorization.

9. selects the appropriate prescription container.

10. "fills" the order by measuring, counting, transferring, or compounding the prescription.

11. prices the prescription using alternative systems.

12. makes proper profile entries.

13. in delivering drug to patient, is able to provide verbal cautions and instructions when appropriate.

III. Basic administration and economics of practice

The pharmacist:

1. is able to order pharmaceuticals efficiently.

2. makes judgments about appropriate sources of drugs.

3. maintains appropriate inventory control affecting efficient turn-over.

4. interprets simple financial reports and makes appropriate operational adjustments.

5. delegates tasks safely and efficiently.

6. supervises professional and non-professional personnel.

7. explains fees and costs and scope of professional services.

8. is able to process third-party prescriptions.

IV. Personal traits

Note: These were discussed at length, but it was difficult to translate them into measurable attributes and performances. It was noted that they relate to Area VI and indeed support most of the other competencies as well.

The pharmacist demonstrates the following attributes:

1. good-grooming.
2. civic-mindedness.
3. pride in service.
4. reliability.
5. desire to serve the public.
6. integrity.
7. ability to establish trust relationships.
8. versatility.
9. tactfulness.
10. altruism.
11. works with a sense of humor.
12. trustworthiness.
13. highly professionally motivated.

V. Health aids*

The pharmacist:

1. is able to judge relative therapeutic worth of the various health aids and appliances.
2. is able to effectively counsel patients on the purchase and use of health aids and appliances.

* examples of items in this category include: crutches, braces, belts, supports, syringes, surgical dressings, rubber goods, thermometers, enemas, ex-contraceptive drugs and devices.
Diagnostic agents such as Clinistix, Clinitest were discussed and included within the meaning of this section.

In this connection, proper use and storage of diagnostic aids and the effect of drugs on false diagnostic readings were discussed.

VI. Human relations

The pharmacist:

1. respects patients' rights.
2. recognizes needs of special patients.

   i.e., cancer patients, (placebos)

   long-term chronic patients

   the aged.
3. exhibits confidence-facilitating trust relationship.
4. exhibits a patient orientation.
5. communicates effectively.
6. conveys professional image.
7. judges the level of patient understanding so that he can provide effective counsel.

VII. Ethics, professional judgment, legal

The pharmacist:

1. knows and complies with pharmacy and drug laws and regulations.
2. maintains confidentiality of patients' drug records.
3. instills attitude of confidentiality in non-professional staff.
4. uses appropriate professional judgments in situations requiring interpretation of law.
5. demonstrates a concern for the patient over a personal desire for profit.

VIII. Clinical practice

The pharmacist:

1. maintains a patient-oriented attitude.

2. knows and is able to evaluate courses of therapy.

3. knows the pharmacological actions of drugs.

4. is able to contrast the comparative advantages and disadvantages of drugs for a given condition.

5. is able to recommend drugs of choice for a given condition.

6. uses and evaluates sources of drug information.

7. makes judgments concerning clinical significance of reported differences in drug composition and bioavailability.

8. defends professional judgments based on available literature.

9. provides emergency treatment where necessary and appropriate, and provides poison control and poison treatment information.

10. is able to make judgments with respect to treatment of overdoses.

11. is able to communicate potential drug interactions, multiple prescribing, non-compliance with prescribed dosage regimens, to other health professionals and patients, when indicated.

12. makes judgments involving when to refer patient to physician.

13. is able to provide private consultation.

IX. Inter-professional and inter-agency relationships

The pharmacist:

1. communicates effectively as a member of the health care team.

2. is able to provide the following services to patients in small hospitals and nursing homes:

   drug control and security

   procurement and storage of drugs

   dispensing of drugs

   inspection of drugs and drug administration procedures in patient care areas

   in-service education to other health professionals

   monitoring drug therapy.

X. Professional development

The pharmacist:

1. recognizes importance of maintaining competence.
2. participates in continuing professional education.

Institutional Practice

The Institutional practice panel has identified 45 general competencies for the institutional pharmacist which have been grouped into 11 major categories. For each of the general competencies, more specific competencies have been outlined to aid in the characterization. These subcompetency lists may not be complete but the one's listed are considered to be concise by this particular panel.

I. Medical/Surgical Equipment and Supplies

1. Being able to demonstrate knowledge of the purpose and operation of medical/surgical equipment.

a. State the purpose and Operation of IV flow rate controllers.

b. State the purpose and operation of suction equipment

c. State the purpose and function of respirators.

d. State the purpose and function of pacemakers

e. State the purpose and function of dialysis machines, associated supplies, and dialysate.

2. Being able to demonstrate knowledge of the types and use of medical/surgical supplies.

a. Being able to state the types and use of IV administration sets.

b. Being able to state the types and use of needles and IV cathethers.

c. Being able to state the types and use of syringes.

d. Being able to state the types and use of dressings.

e. Being able to state the types and use of ostomy appliances.

f. Being able to state the types and use of orthopedic appliances.

g. Being able to state the types and use of diabetic supplies.

II. Laws and Regulations

3. Being able to recognize and apply Federal laws and regulations, including:

a. Controlled substances
(i) Compare the several types of systems for controlled substances in use within institutions.
(ii) Prepare application for DEA registration.
(iii) Prepare DEA controlled substances order forms.
(iv) Prepare records and reports to comply with methadone regulations
(v) Prepare ethyl alcohol records and reports.
(vi) Formulate a plan of action to deal with an employee who is responsible for diversion of controlled substances.

b. FDA regulations
(i) Act on FDA drug recalls using lot number information as supplied by the manufacturer.
(ii) Formulate a procedure to comply with FDA regulations concerning investigational drugs including patient informed consent.
(iii) Comply with the FDA regulations that apply to drugs.

c. Medicare/Medicaid
(i) Comply with medicare/medicaid regulations that apply to drug utilization review and quality assurance.

4. Being able to recognize and apply State laws and regulations.

a. Comply with Department of Health regulations that apply to pharmacy including welfare department regulations regarding reimbursement.

b. Comply with all State Board of Pharmacy laws and regulations.

5. Being able to recognize and comply with all JCAH Standards.

III. Evaluation and Research

6. Being able to apply principles of research study design taking into consideration patients' rights and informed consent.

a. Describe the basic principles of research design including the statistical analysis necessary to draw valid conclusions.

b. Explain all pharmaceutical aspects of investigational drug studies including preparation of placebos, monitoring patient compliance, proper packaging/labeling and maintenance of records and drug codes.

7. Being able to demonstrate knowledge of information resources.

a. Describe various information sources and systems to retrieve pharmaceutical and therapeutic aspects of medication

8. Being able to critically evaluate and interpret medical and pharmaceutical literature.

IV. Management/Supervision

9. Being able to state the functions and responsibilities of associated health care personnel and their interrelationship.

10. Being able to demonstrate knowledge of committee organization and purpose

a. Describe organization and purpose of P and T Committee.

b. Describe organization and purpose of Human Studies Committee.

c. Describe organization and purpose of Safety Committee.

d. Describe organization and purpose of Infection Control Committee.

e. Describe organization and purpose of Utilization Review and PSRO Committees.

f. Describe organization and purpose of Pharmacy and and Nursing Liaison Committee.

g. Describe organization and purpose of Diaster Committee.

h. Describe organization and purpose of Surgical and Medical Committees.

11. Being able to effectively perform in group processes.

12. Being able to establish departmental goals and objectives.

13. Being able to formulate policies and procedures.

14. Being able to obtain approval for a proposed course of action.

a. Develop reasons and arguments to support a proposed course of action.

b. Present and defend the reasons and arguments to support the proposed course of action.

c. Respond to counter arguments presented in opposition to the proposed course of action.

d. Not taking No for an answer.

15. Being able to implement a proposed course of action.

a. Explain the proposed course of action to all concerned

b. Establish a schedule for implementation.

c. Establish a follow-up evaluation to determine effectiveness and validity and to modify if indicated.

16. Being able to apply sound fiscal management principles.

a. Establish an inventory control system based on resources available and the requirements of a particular institution.

b. Establish an effective budget system for personnel, supplies, and equipment and provide for periodic review and reassessment.

c. Establish a purchasing policy to obtain the highest quality at the most reasonable price.

d. Establish a fair and equitable pricing system for pharmaceutical services.

17. Being able to demonstrate knowledge of health care institution organization.

a. Describe public and private hospital organization.

b. Describe nursing home and extended care unit organization.

c. Describe HMO's.

d. Describe comprehensive health planning organizations and health systems agencies.

18. Being able to formulate reports for proper control of activities within the department.

19. Being able to analyze reports for proper control of activities within the department.

20. Being able to apply sound personnel management principles.

a. Establish effective recruitment policies.

b. Establish job descriptions for each job category.

c. Establish interview techniques.

d. Establish orientation and training programs for new employees.

e. Establish in-service training programs.

f. Provide adequate supervision of supportive personnel with emphasis on restricting their activities within the limits of their job descrition.

g. Establish periodic performance evaluation procedures.

h. Identify Federal and State labor laws including guidelines for collective bargaining.

21. Being able to establish policies to control the relationship with pharmaceutical manufacturers' representatives.

V. Communications

22. Being able to demonstrate effective communications with co-workers, other professionals, patients, and the public.

a. Conduct a productive patient interview.

b. Compile a complete patient drug history.

c. Effectively express his/her professional opinion.

d. Ask appropriate questions to clarify communications.

e. Demonstrate effective and courteous telephone communication techniques.

f. Deduce the needs of others.

g. Anticipate the needs of others.

h. Reduce verbal communication to writing effectively.

i. Teach others successfully.

j. Utilize various teaching techniques and media.

k. Assess individual needs in terms of teaching.

VI. Professional and Personal Traits

23. Being able to appraise and analyze situations to reach practical conclusions.

a. Apply criticism constructively.

b. Innovate in the development of new ideas and methods.

24. Being able to work independently.

a. Establish priorities.

b. Approach work systematically.

c. Require minimal supervisory support.

d. Make decisions.

e. Recognize self limitations.

f. Seek appropriate consultation.

25. Being able to participate cooperatively as a health team member.

    a. Respond to the needs of others.

    b. Contribute sound professional judgments.

26. Being able to demonstrate accuracy in work.

    a. Perform mechanical tasks with minimal error.

    b. Calculate correctly.

    c. Interpret medication orders as intended.

    d. Complete product so as to meet ethical and legal standards.

    e. Recognize errors.

    f. Recheck calculations and final prescription product.

    g. Investigate questionable orders.

    h. Provide complete information on prescription label.

    i. Use ancillary labels where indicated.

    j. Seek feed-back to determine patient understanding.

    k. Use professional judgment in refilling prescriptions.

27. Pursue professional knowledge and development continually.

    a. Participate in professional organizations actively.

    b. Read professional journals.

    c. Attend conferences, seminars, workshops, and C.E. programs with regularity.

    d. Design own professional growth goals.

    e. Interact with other health professionals and other health professional organizations.

    f. Contribute to teaching programs.

28. Perform with high ethical standards.

    a. Place welfare of patients above own interests.

    b. Personally issue medication to patient when practical.

    c. Comply with laws and regulations pertaining to pharmacy practice.

d. Observe patient's Bill of Rights.

e. Respect confidentiality of patient records.

f. Use discrimination in discussing medication and therapy with patients.

g. Charge fees for pharmaceutical services which are fair and consistent.

h. Volunteer his/her time and talents for the betterment of the community.

i. Select products with quality as the first priority.

VII. Rational Drug Therapy

29. Being able to demonstrate basic knowledge of the pathphysiology of disease.

a. List the etiology, signs, symptoms, and prognosis of the major diseases of the cardiovascular system.

b. List the etiology, signs, symptoms, and prognosis of the major diseases of genitourinary system.

c. List the etiology, signs, symptoms, and prognosis of the major diseases of the respiratory system.

d. List the etiology, signs, symptoms, and prognosis of the major diseases of the hematologic system.

e. List the etiology, signs, symptoms, and prognosis of the musculoskeletal system.

f. List the etiology, signs, symptoms, and prognosis of the major diseases of the neurological system.

g. List the etiology, signs, symptoms, and prognosis of the major diseases of the endocrine system.

h. List the etiology, signs, symtpoms, and prognosis of the major diseases of the reproductive system.

i. List the etiology, signs, symptoms, and prognosis of the major diseases of the ENT system.

j. List the etiology, signs, symptoms, and prognosis of the major diseases of the ophthalomogic system

k. List the etiology, signs, symptoms, and prognosis of the major diseases of the dermatologic system.

30. Being able to demonstrate basic knowledge of medications.

a. Indicate the most common and most important actions of every medication.

b. Indicate the most common and most important indications of every medication.

c. Indicate the most common and most important contraindications of every medication.

d. Indicate the most common and most important side effects of every medication.

e. Indicate the most common and most important adverse reactions of every medication.

f. Indicate the most common and most important interactions of every medication.

g. Indicate the most common and most important warnings of every medication.

h. Indicate the most common and most important physical characteristics of every medication.

i. Indicate the most common dosages of every medication.

31. Being able to demonstrate basic knowledge of clinical lab values and vital signs and their relationship in determining appropriate drug therapy, including the effects of drugs on them.

a. State the normal values for electrolytes.

b. State the normal values for blood chemistry

c. State the normal values for hematologic tests.

d. State the normal values for vital signs

e. Interpret an abnormal value for electrolytes.

f. Interpret an abnormal value for hematologic tests.

g. Interpret an abnormal value for vital signs.

h. Interpret an abnormal value for blood chemistry.

i. Evaluate the electrolyte values in relation to drug therapy.

j. Evaluate the blood chemistry in relation to drug therapy.

k. Evaluate the hematologic tests in relation to drug therapy.

l. Evaluate the vital signs in relation to drug therapy.

32. Being able to demonstrate knowledge of the various routes of administration.

a. Describe the characteristics of the oral route of administration.

b. Describe the characteristics of the subcutaneous route administration.

c. Describe the characteristics of the rectal route of administration.

d. Describe the characteristics of the IM route of administration.

e. Describe the characteristics of the IV route of administration.

f. Describe the characteristics of the vaginal route of administration.

g. Describe the characteristics of the urethral route of administration.

h. Describe the characteristics of the intrathecal route of administration.

i. Describe the characteristics of the ophthalmic route of administration.

j. Describe the characteristics of the otic route of administration.

k. Describe the characteristics of the nasal route of administration.

l. Describe the characteristics of the intradermal route of administration.

m. Describe the characteristics of the inhalation route of administration.

n. Describe the characteristics of the sublingual route of administration.

o. Describe the characteristics of the topical route of administration.

33. Being able to demonstrate knowledge of the advantages of one drug therapy over another in treating a specific disease state.

a. Keep abreast of current drug literature.

b. Given a disease state, list the alternative therapies for that disease.

34. Being able to demonstrate knowledge on the principles of nutrition.

a. Describe the function of carbohydrates in the body.

b. Describe the function of proteins in the body.

c. Describe the function of fats in the body.

d. Describe the function of vitamins/minerals in the body.

e. Describe the vitamin/mineral content of food.

f. Describe the electrolyte sources of drugs and foods.

g. List drug-food interactions.

h. Describe alternative methods of supplying nutrition.

35. Being able to monitor total drug therapy.

a. Outline a system of obtaining pertinent patient information.

b. Correlate this patient information with the drug regimen.

c. Assess therapy with regard to drug-drug interactions.

d. Assess therapy with regard to drug-food interactions.

e. Assess therapy with regard to drug interactions with lab tests.

f. Assess therapy with regard to adverse drug reactions.

g. Assess therapy with regard to therapeutic incompatibilities.

h. Assess therapy with regard to drug effects on vital signs.

i. Assess therapy with regard to dosage in relation to patient's specific needs.

j. Establish parameters of significance of findings.

k. Recommend appropriate course of action.

l. Disseminate information to appropriate parties.

36. Being able to demonstrate knowledge of medical record systems and interpretations.

a. List various medical and nursing records available.

b. Ability to retrieve pertinent information regarding the patient.

c. Utilize pertinent information .

d. Define medical terms.

e. Identify elements of a pharmacy profile.

f. Devise a pharmacy profile for a given drug distribution system.

g. Utilize the pharmacy profile as an adjunct to rationale drug therapy.

VIII. Pharmaceutical Skills

37. Being able to apply knowledge of dosage forms.

a. Identify various dosage forms available for any given drug.

b. Define the properties of the dosage forms listed in #1.

c. Select proper dosage form in conjunction with physician's order.

d. Identify bioequivalent products.

e. Select the appropriate product to dispense.

38. Being able to compound, manufacture, and package with regard to technology and legal requirements.

a. Describe equipment necessary in compounding, dispensing, and manufacturing.

b. Describe equipment necessary in packaging.

c. Demonstrate the ability to use this equipment.

d. Formulate appropriate labeling and control procedures.

e. Identify the physical properties of the compounded drugs and materials.

39. Being able to interpret the physician's original orders

a. Define symbols and abbreviations necessary to interpret a prescription.

b. Describe the value of obtaining the original order.

c. Appraise physician's order as to its completeness.

d. Clarify questionable orders.

IX. Drug Distribution

40. Being able to demonstrate knowledge of the various drug distribution systems.

a. Describe unit dose drug distribution system.

b. Describe floor stock distribution system.

c. Describe individual patient prescription distribution system.

d. Compare the three distribution systems described above.

e. Select appropriate drug distribution system.

41. Being able to demonstrate knowledge of a pharmacy controlled I.V. admixture program as it relates to drug distribution.

a. Identify the purpose of a pharmacy controlled I.V. admixture system.

b. Identify the operation of a pharmacy controlled I.V. admixture system.

X. Microbiological Concepts

42. Being able to describe and apply aseptic and sterile techniques.

43. Being able to demonstrate a knowledge of sterilization methods.

a. Apply to describe and apply principles of steam sterilization.

b. Apply to describe and apply principles of gas sterilization.

c. Apply to describe and apply principles of sterilization by filtration.

d. Apply to describe and apply principles of cold sterilization.

e. Apply to describe and apply principles of control of pyrogens.

44. Being able to define nosocomial infections and describe methods of their prevention.

XI. Computer Application

45. Being able to apply computer technology to health care.

a. Utilization in inventory control, purchasing, and billing.

b. Utilization in information processing in drug distribution systems.

c. Utilization in assistance in monitoring drug therapy in relationship to drug allergies, drug-drug interactions, etc.